

San Luis Valley – Taos Plateau Study

Landscape Assessment & Regional Mitigation Strategies for BLM Colorado Solar Energy Zones

BLM Front Range Resource Advisory Council
Briefing
June 4, 2014

Joe Vieira, BLM Colorado Renewable Energy Team



Briefing Objectives

- ***Summarize recent DOI & BLM mitigation policy for large energy and transmission projects:***
- ***Overview BLM Colorado San Luis Valley – Taos Plateau Study:***
 - Components & terminology;
 - Process, products,
 - Timeline; Stakeholder, RAC, & public engagement



Improving Mitigation Policies and Practices of the Department of the Interior

- Recent DOI & BLM landscape-level mitigation planning policy
 - Direction relevant to *BLM Colorado Solar Energy Zones (SEZ)*
- DOI Solar PEIS Record of Decision (Oct, 2012)
 - Mitigation Hierarchy
 - *Avoid, Minimize, Mitigate*
 - Avoid-Minimize:
 - Exclusion Areas, SEZ's, Design Features, Variance Process
 - Offset mitigate or compensate for some *unavoidable* Residual Impacts
 - Regional Mitigation Strategies required for 19 SEZ's in 6 western states
- BLM Draft Regional Mitigation Policy (June, 2013)
 - Proposed BLM landscape-scale vs project-by-project for Mitigation
- DOI Secretarial Order 3330 - (Oct, 2013)
 - Directed BLM, FWS, NPS, BOR to implement landscape-scale mitigation policies & practices



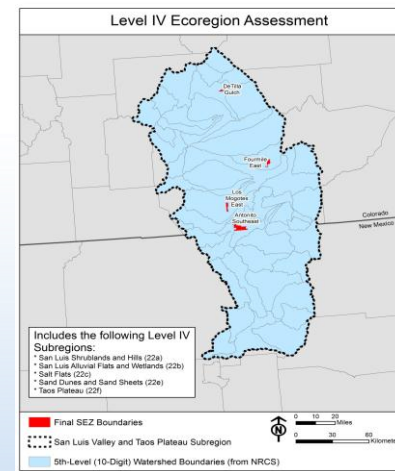
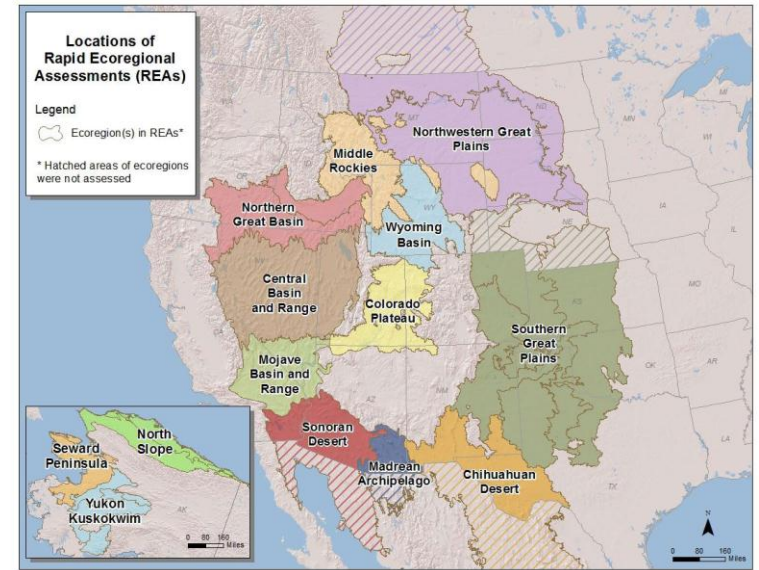
San Luis Valley – Taos Plateau Study Components

Landscape Assessment

- BLM Rapid Ecoregional Assessment (REA) Protocol
- Characterizes land and resource status and trends at broad geographic scales
- Evaluates potential to change in response to development, fire, invasive species, and climate change
- Best available *existing* data
- Not decision documents

SEZ Regional Mitigation Strategies (3)

- Tiered Solar PEIS Mitigation Hierarchy Follow-up
- Residual impacts, degree, & RMP goals
- Compensatory Mitigation Recommendation: what, why, where, how much?
- Landscape-scale: regionals cumulative effects
- Informs project-level NEPA and future right-of-way decision



San Luis Valley – Taos Plateau Study

Landscape Assessment Terminology

Conservation Elements Management Questions



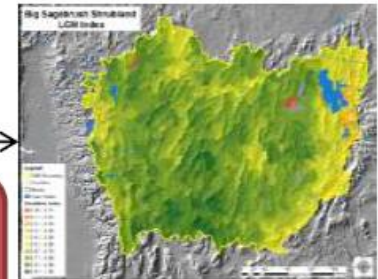
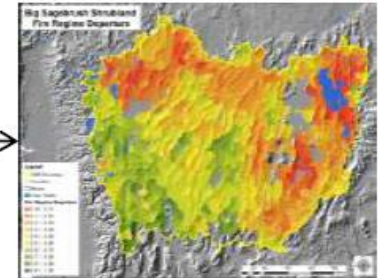
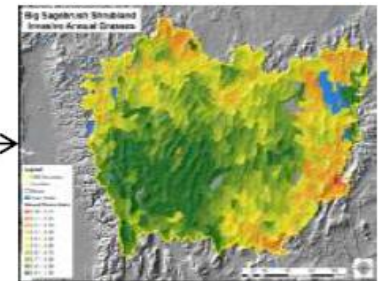
Habitats,
Species
Systems,

Change Agents



Human Development,
Climate Change,
Fire,
Invasive Species

Results



Habitat
Disturbance
Fragmentation
Removal

Existing data
Models
Tools

Conceptual and GIS Spatial Models:
Conservation Elements + Change Agents

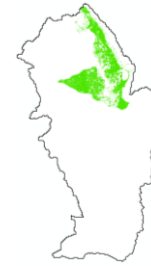
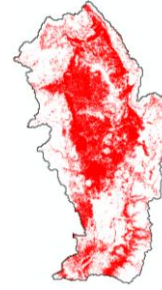
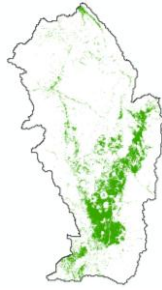
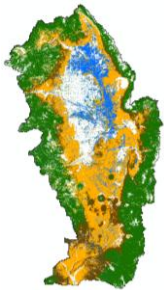
Management Question
Results



San Luis Valley – Taos Plateau Study

Landscape Assessment Products

Conservation Elements:



■ Basin Grassland and Shrubland
■ Montane and Subalpine Conifer Forest
■ Pinyon-Juniper Woodland
■ Riparian and Wetland

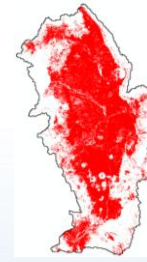
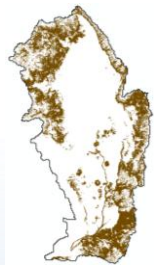
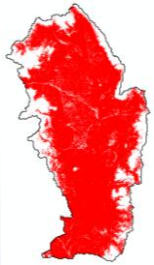
Native fish assemblage
(RGCT + RGsucker)*

Brewer's sparrow

Prairie falcon

Gunnison
sage-
grouse

Shorebird
Waterfowl
Assemblage*



Mexican free-
tailed
bat

Bighorn
sheep

Shrubland
fauna
assemblage

Elk-mule deer
assemblage

Pronghorn

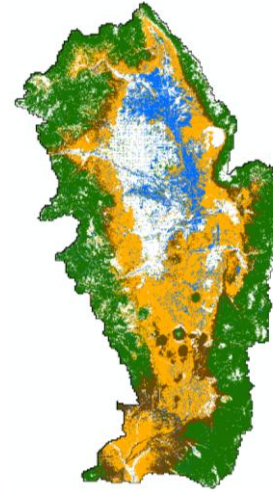
Mountain lion

San Luis Valley – Taos Plateau Study

Landscape Assessment Products

Example:

- Ecological System Conservation Element (A.2):
 - *Basin Grassland and Shrubland*
- Focal Species Conservation Element (B.11):
 - *Pronghorn*
- Management Question MQ (D.6):
 - *What is the status of big game migration corridors?*
- Change Agent:
 - *Development*

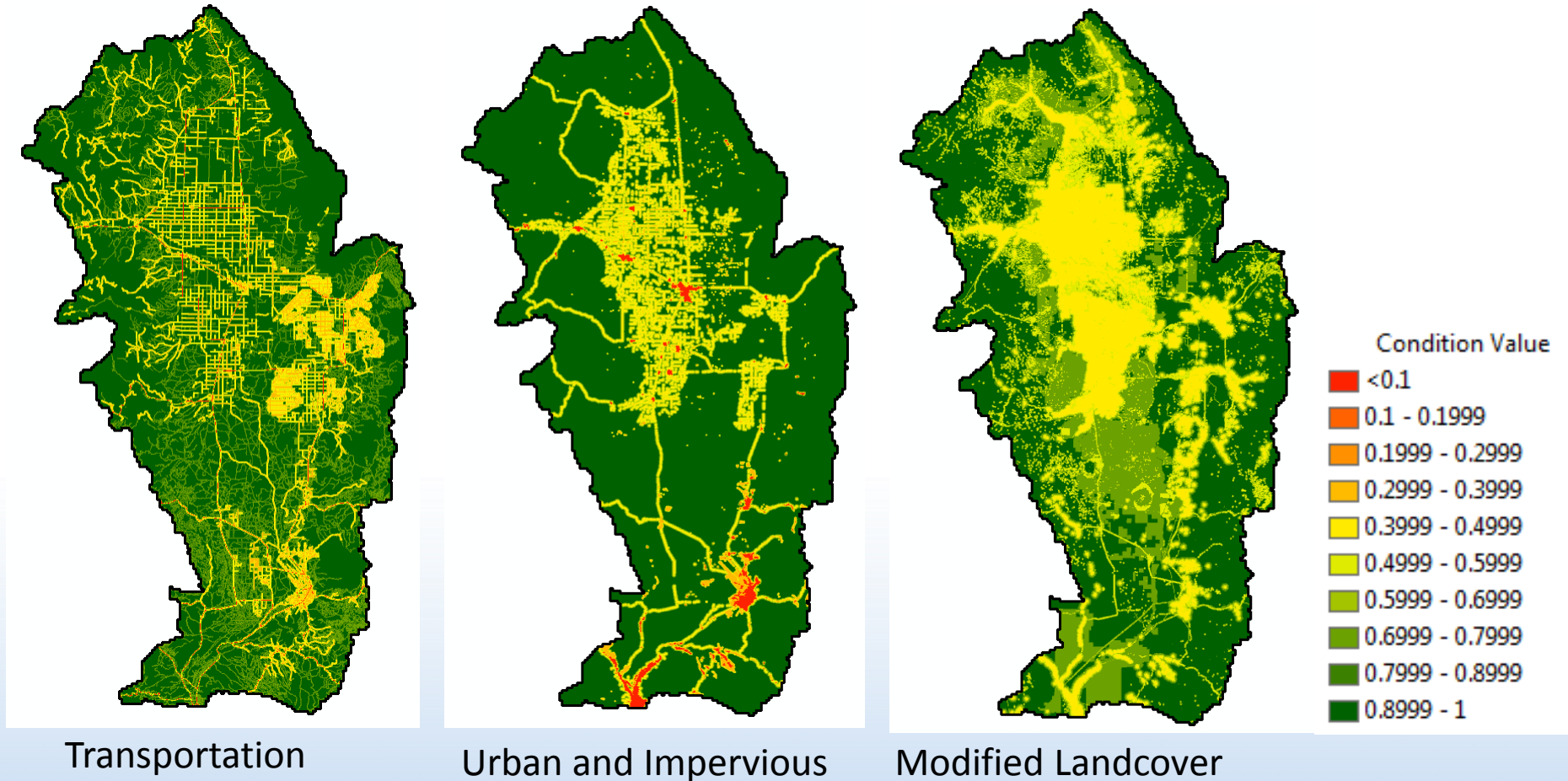


- Basin Grassland and Shrubland
- Montane and Subalpine Conifer Forest
- Pinyon-Juniper Woodland
- Riparian and Wetland



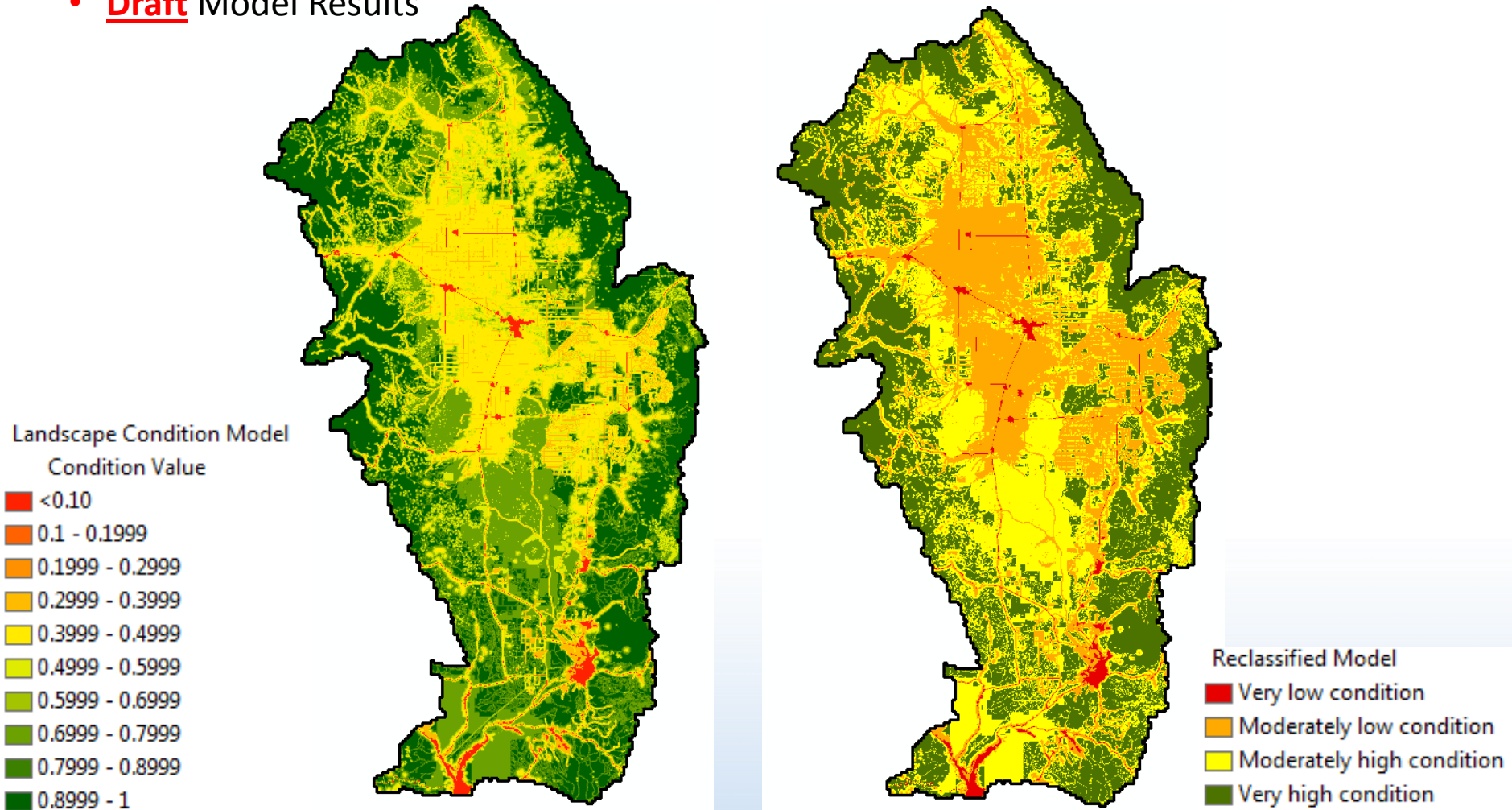
Development Change Agent: *Ecological Landscape Condition Model*

- **Draft** Model Results

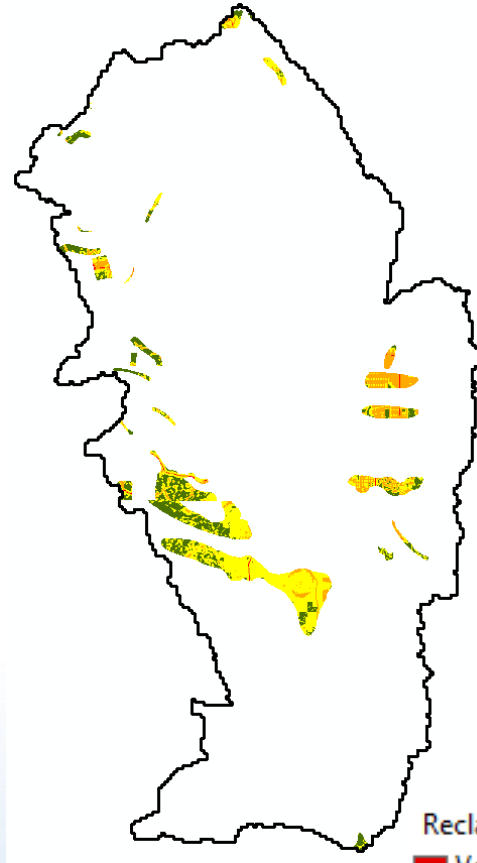
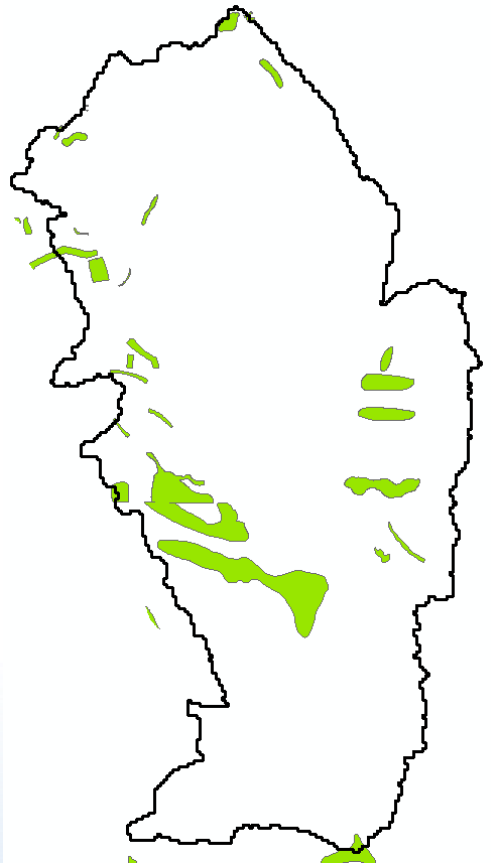


Development Change Agent: *Ecological Landscape Condition Model*

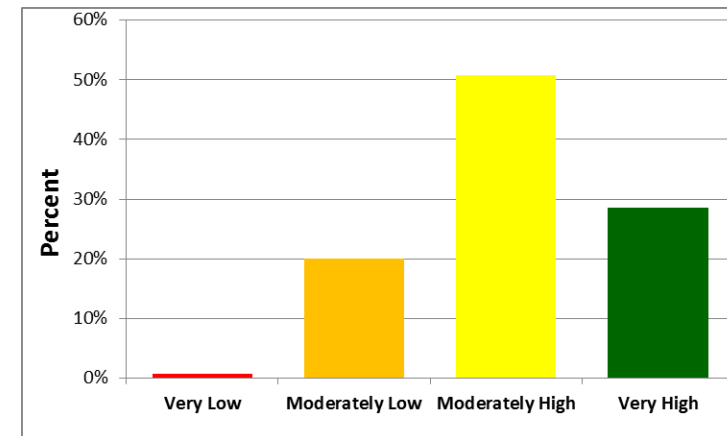
- **Draft** Model Results



MQ: What is the status of big game migration corridors?



Big Game Winter Range
Ecological Condition



Reclassified Model

- Very low condition
- Moderately low condition
- Moderately high condition
- Very high condition


Example 2: Climate Change

Data Sources


MQJ1:

Where are areas with greatest long-term potential for climate change?

registerlogin



CLIMATE CHANGE SCENARIOS



HOME

DATA

MORE RESOURCES

FAQ

CONTACT US

Download NCAR Community Climate System Model (CCSM) projections in GIS formats

New to the GIS Climate Change Scenarios site?

Register Now

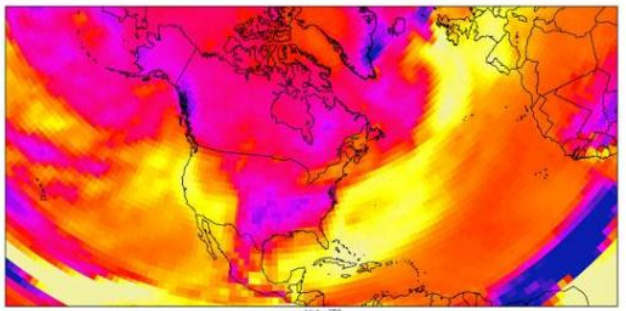
Existing users log in here

About this site

Welcome to **NCAR's GIS Program** Climate Change Scenarios GIS data portal. This portal is intended to serve a community of GIS users interested in climate change. The free datasets of climate change projections can be downloaded as a shapefile, a text file, or as an image. Many 2D variables from modeled projected climate are available for the atmosphere and land surface. These climate change projections were generated by the **NCAR Community Climate System Model**, or CCSM, for the 4th Assessment Report of the **Intergovernmental Panel on Climate Change** (IPCC).

To access data, you must **register**, **login** and accept data disclaimer. Please read data disclaimer carefully.

Thank you for visiting GIS Climate Change Scenarios website. This GIS portal is complimentary to other IPCC data distributing



Seasonal total precipitation anomaly for March – May. CCSM simulations for 2040–2059 compared to 1980–1999 for scenario A2.

Resources

tutorial

polygon shapefile

downscaling document

citation information

A tutorial on how to analyze climate projections from the CCSM in a GIS.

A polygon dataset for use with the CCSM modeled climate projections.

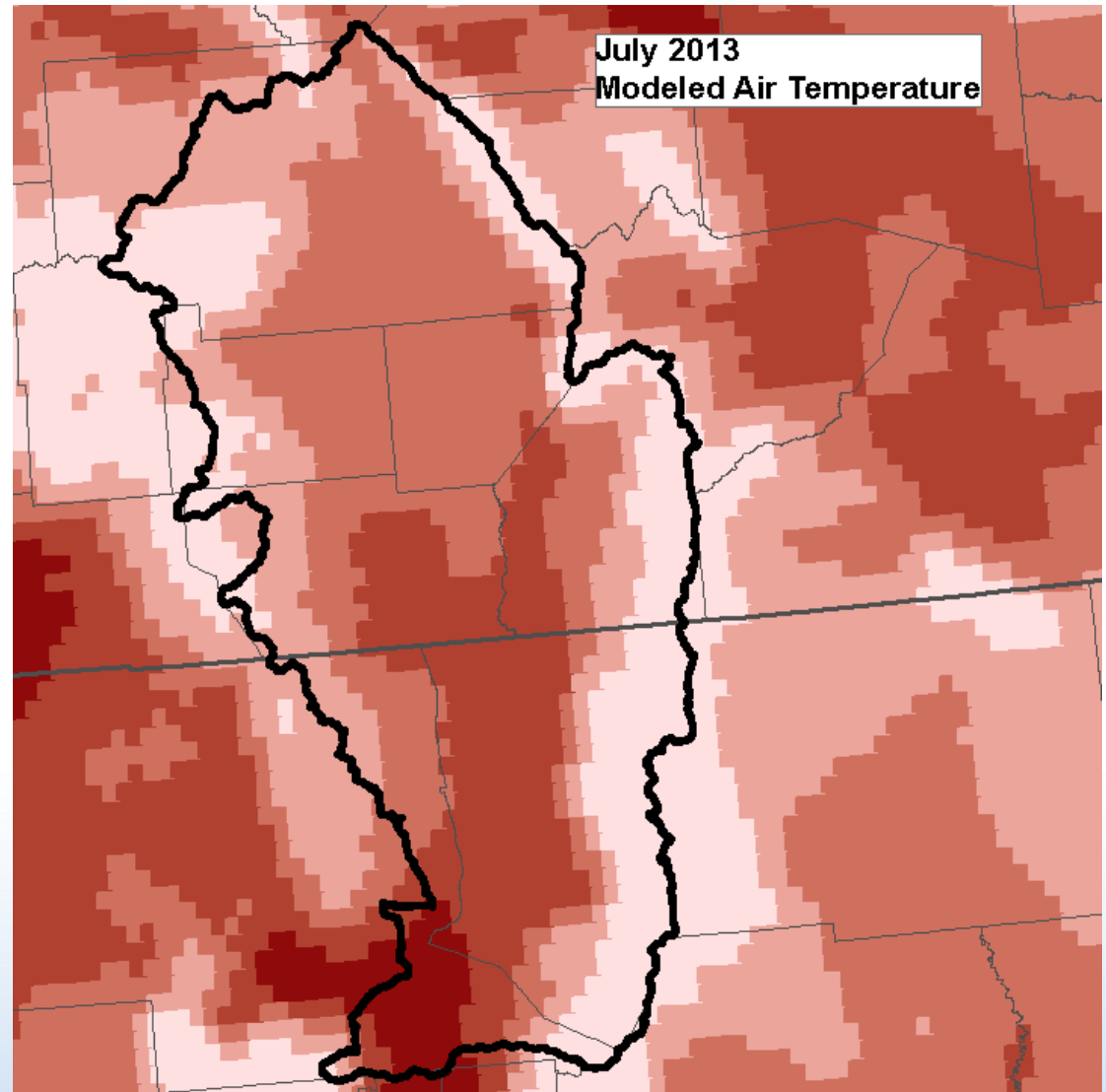
Statistical downscaling of the Community Climate System Model (CCSM) monthly temperature and precipitation projections.

Information on how to properly cite the use of the data.

Example 2:
Climate Change

MQJ1:

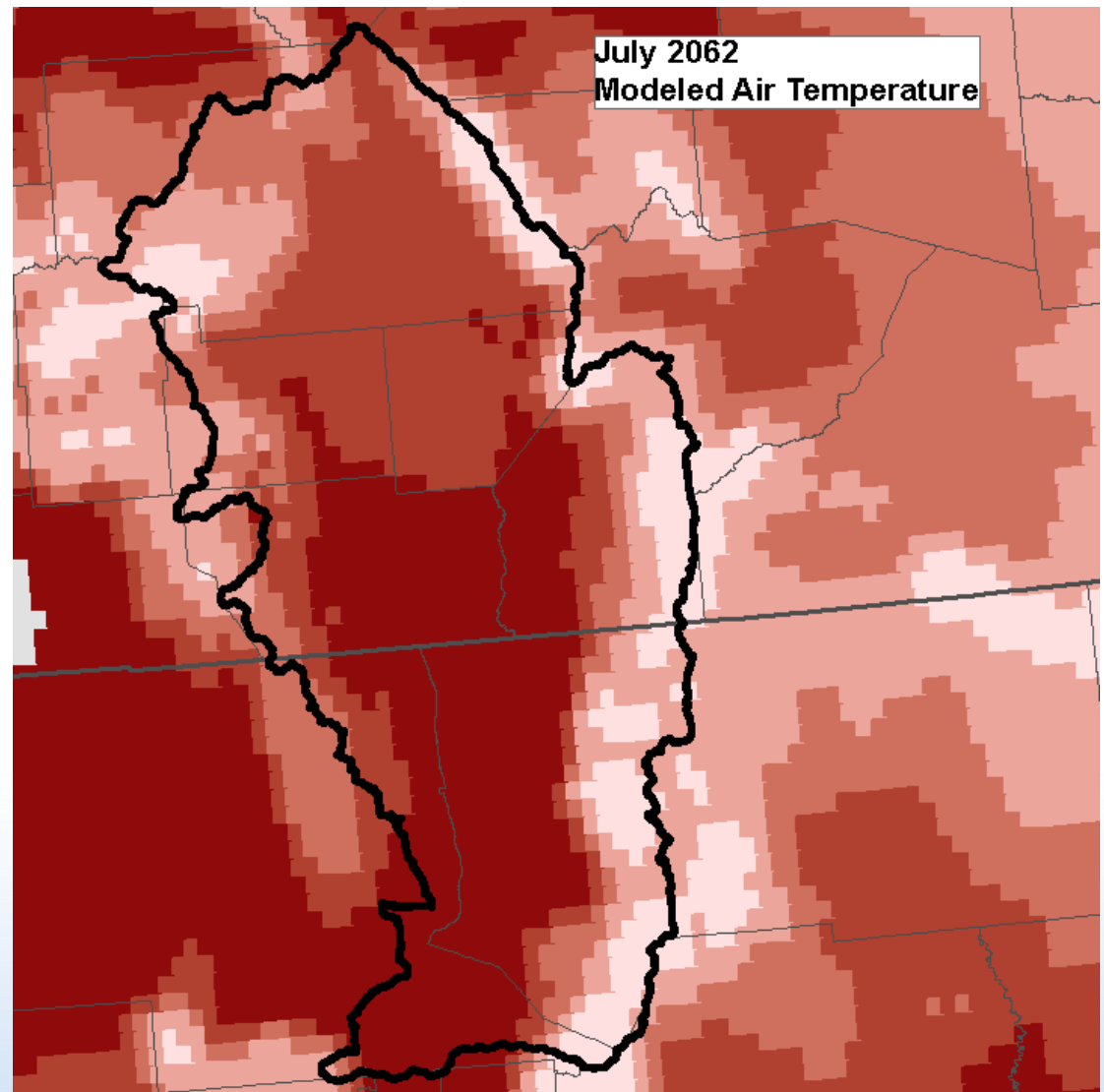
Where are areas
with greatest long-
term potential for
climate change?



Example 2:
Climate Change

MQJ1:

Where are areas
with greatest long-
term potential for
climate change?



San Luis Valley – Taos Plateau Study

Solar Regional Mitigation Strategy

- SEZ Regional Mitigation Strategy Development, SEZ Monitoring, and SEZ Adaptive Management are DOI Solar PEIS ROD follow-up requirements for BLM
- Stakeholder and public engagement is central to Regional Mitigation Strategy Development process
- Sources:
 - Solar PEIS,
 - Landscape Assessment (REA),
 - other studies,
 - San Luis Resource Area – Resource Management Plan,
 - Stakeholder and public input



San Luis Valley – Taos Plateau Study

Timeline: SRMS = Solar Regional Mitigation Strategy - Process

- Questions addressed in developing a SEZ Regional Mitigation Strategy Development:
 1. What is the **baseline** upon which SEZ residual (unavoidable) impacts are addressed?
 2. What are the residual (unavoidable) impacts of 80% SEZ build-out?
 3. What is the degree of those SEZ impacts and do they warrant regional mitigation?
 4. If so, what are the SEZ regional mitigation goals?
 5. What would be the most appropriate mitigation locations, objectives, and actions?
 6. How be the mitigation compensation be calculated and how would mitigation fee be structured and managed?
 7. How would SEZ mitigation effectiveness be monitored and applied in adaptive management?



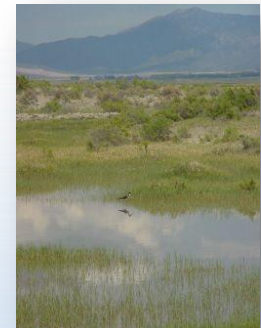
- **Project launch (SRMS/LA): Nov-Dec 2013**
- **Baseline data compilation (SRMS/LA): Jan 2014 – on-going**
- **Public website and outreach (SRMS/LA): Feb-May, 2014**
- **Draft Conservation Element and Management Questions (LA): Jan 2014 – May 2014**
- **Draft SEZ Residual (Unavoidable) Impacts Review (SRMS): Jan-Feb, 2014**
- **Draft Conceptual Models and Geospatial Processing (LA): Mar-Jul, 2014**
- **Assessment Report - Phase 1 (LA): Jul, 2014**
- **Draft SEZ Impacts Warranting Mitigation (SRMS): Jul-Aug, 2014**
- **Draft SEZ Impact mitigation goals (SRMS): Jul-Aug, 2014**
- **SEZ Public Meetings - Field Trips – Q&A : Sept 8-12, 2014**
- **Draft SEZ Mitigation Objectives, Locations, Actions, Public Web Sessions: Oct-Dec 2014**
- **Final Reports (SRMS/LA): Summer 2015**

San Luis Valley – Taos Plateau Study

RAC Input

RAC Input & Priorities Valued:

- Which *San Luis Valley – Taos Plateau Ecoregion* natural resource management issues (Management Questions, Conservation Elements, Change Agents) are most critical?
- What are RAC priorities in terms of
 - BLM SLRA RMP (1991)
 - In terms of Solar Energy Zones?
 - Undue and Unnecessary Degradation under FLPMA? and
 - Mitigation?



San Luis Valley – Taos Plateau Landscape Assessment

Questions?
Discussion?



For More Information Contact:

Joe Vieira

jvieira@blm.gov

719-852-6213

